

	EN	RU	UA
5	Agate, jasper, onyx, sapphire	Агат, яшма, онікс, сапфір	Агат, яшма, онікс, сапфір
10	Glazed ceramic tiles, glass	Глазурована керамическая плитка, стекло	Глазурована керамична плитка, скло
15	Soft marble, hard limestone	Мрамор мягкий, известняк твердый	Мармур м'який, твердий вапняк
20	Hard marble, dolomite, travertine	Мрамор твердый, доломит, травертин	Мармур твердий, доломіт, травертин
25	Hard ceramic, ceramic granite	Твердая керамика, керамогранит	Тверда керамика, керамограніт
30	Hard and medium-hard granites, quartzites	Граниты твердые и средние, кварциты	Граніти тверді і середні, кварцити
35	Soft granites, gabbro, labradorite, basalt	Граниты мягкие, габбро, лабрадорит, базальт	Граніти м'які, габро, лабрадорит, базальт
40	Highly-reinforced and hydraulic concrete	Высокоармированный бетон, гидротехнический бетон	Высокоармований бетон, гідротехнічний бетон
45	Fine-grained concrete, paving slabs	Мелкозернистый бетон, тротуарные плиты	Дрібнозернистий бетон, тротуарні плити
50	Concrete, reinforced concrete	Бетон, бетон армированный	Бетон, армований бетон
55	Masonry, clinkers	Кирпич полнотелый твердый, клинкер	Цегла повнотіла тверда, клінкер
60	Non-reinforced concrete, concrete pipes	Неармированный бетон, бетонные трубы	Неармований бетон, бетонні труби
65	Hard sandstone, facing bricks	Песчаник твердый, кирпич облицовочный	Пісковик твердий, цегла облицовальна
70	Ceramic tiles, refractory abrasives	Черепица керамическая, огнеупоры абразивные	Черепиця керамична, вогнетриві абразиви
75	Cement-sand tiles, fireclay bricks	Черепица цементно-песчаная, шамотный кирпич	Черепиця цементно-піщана, шамотна цегла
80	Silicate bricks, limestone	Кирпич силикатный, известняк	Цегла силікатна, вапняк
85	Abrasive sandstone, tuff	Песчаник абразивный, туф	Пісковик абразивний, туф
90	Shell limestone, sand-cement screed	Ракушечник, цементно-песчаная стяжка	Черепашник, цементно-піщана стяжка
95	Green concrete	Свежий бетон	Свіжий бетон
100	Asphalt	Асфальт	Асфальт

Table 1. Applicability of Diamond Tools according to Material Type:
Таблиця 1. Применимость алмазного инструмента по материалам:
Таблиця 1. Застосування алмазного інструменту за матеріалами:

Power, kW	Abrasivity scale/Шкала абразивности/Шкала абразивності																			
	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
3.0 >							••	••	••		••									
2.0-2.9							••	••	••	••										
< 1.9							•	•	•	•	••									
••• optimally applicable оптимально применимо використується																				
••• rarely applicable иногда применимо іноді використовується																				
not applicable не применимо не використовується																				

Table 2. Recommended drilling modes:
Таблиця 2. Рекомендуемые режимы сверления:
Таблиця 2. Рекомендовані режими свердління:

Drilling method/ Способ сверления/ Спосіб свердління	Ø Drill/ Ø Сверла/ Ø Сверла	Working Shaft Rotational Rate, rpm. Частота обертання робочого валу, об/хв./ Частота обертання робочого валу, об/хв.		Linear drilling Speed, m/sec. Линейная скорость, м/сек/ Лнійна швидкість, м/сек		Working Shaft Power, kW/ < 1,9 power, kW/ < 1,9 мощность, кВт/ < 1,9 потужність, кВт.	Recom- mended water flow rate, l/min./ Рекомен- дуемый расход воды, л/мин./ Рекомендо- ваний витрата води, л/хв.	Hard solid bricks, Concrete/ Кирпич силикатный, Бетон/ Цегла силікатна, бетон	High- reinforced concrete/ Высокоар- мированный бетон/ Високо- армований бетон	Hard solid bricks, Concrete/ Кирпич силикатный, Бетон/ Цегла силікатна, бетон	High- reinforced concrete/ Высокоар- мированный бетон/ Високо- армований бетон	Hard solid bricks, Concrete/ Кирпич силикатный, Бетон/ Цегла силікатна, бетон	Reinforced concrete/ Армирован- ный бетон/ Армований бетон	High- reinforced concrete/ Высокоар- мированный бетон/ Високо- армований бетон	Hard solid bricks, Concrete/ Кирпич силикатный, Бетон/ Цегла силікатна, бетон	Reinforced concrete/ Армирован- ный бетон/ Армований бетон	High- reinforced concrete/ Высокоар- мированный бетон/ Високо- армований бетон	Hard solid bricks, Concrete/ Кирпич силикатный, Бетон/ Цегла силікатна, бетон	Reinforced concrete/ Армирован- ный бетон/ Армований бетон	High- reinforced concrete/ Высокоар- мированный бетон/ Високо- армований бетон
		Hard solid bricks, Concrete/ Кирпич силикатный, Бетон/ Цегла силікатна, бетон	High- reinforced concrete/ Высокоар- мированный бетон/ Високо- армований бетон	Hard solid bricks, Concrete/ Кирпич силикатный, Бетон/ Цегла силікатна, бетон	High- reinforced concrete/ Высокоар- мированный бетон/ Високо- армований бетон															
Drilling without stand allowed/ Допускается сверление без станины/ Допус- кается свердління без станины	16	2400-3600	1430-2150			2	•													
	18	2120-3180	1270-1910			2	•													
	20	1910-2860	1150-1700			2	•													
	25	1530-2290	920-1380			2	•	••	•											
	32	1190-1790	720-1070			2	•	••	••											
	42	910-1360	550-820			2	••	••	••	•	•	•								
	52	730-1100	440-660			2	••	••	••	••	•	•	•	•						
	62	620-920	370-550			2	••	•••	••	••	••	•	•	•	•	•	•			
	72	530-800	320-480			3	••	•••	••	••	••	••	•	•	•	•	•	•	•	•
	82	470-700	280-420			3	••	•••	••	••	••	••	•	•	•	•	•	•	•	•
Drilling only with stand/ Сверление только со станиной/ Свердління тільки зі станою	92	420-620	250-370			3	••	•••	••	••	••	••	•	•	•	•	•	•	•	•
	102	370-560	220-340			3	••	•••	••	••	••	••	•	•	•	•	•	•	•	•
	112	340-510	200-310			4	••	•••	••	••	••	••	•	•	•	•	•	•	•	•
	122	310-470	190-280			4	••	•••	••	•••	•••	••	•	•	•	•	•	•	•	•
	132	290-430	170-260			4	••	•••	••	•••	•••	••	•	•	•	•	•	•	•	•
	142	270-400	160-240	2,0-3,0	1,2-1,8	5	••	•••	••	•••	•••	••	•	•	•	•	•	•	•	•
	152	250-380	150-230			5	••	•••	••	•••	•••	••	•	•	•	•	•	•	•	•
	162	240-350	140-210			5	••	•••	••	•••	•••	••	•	•	•	•	•	•	•	•
	172	220-330	130-200			5	••	•••	••	•••	•••	••	•	•	•	•	•	•	•	•
	182	210-310	130-190			5	••	•••	••	•••	•••	••	•	•	•	•	•	•	•	•
	200	190-280	110-170			6	••	•••	••	•••	•••	••	•	•	•	•	•	•	•	•
	220	170-260	100-150			6	••	•••	••	•••	•••	••	•	•	•	•	•	•	•	•
	250	150-230	90-140			6	••	•••	••	•••	•••	••	•	•	•	•	•	•	•	•
	302	130-190	80-110			8	••	•••	••	•••	•••	••	•	•	•	•	•	•	•	•
	350	110-160	70-100			8	••	•••	••	•••	•••	••	•	•	•	•	•	•	•	•
	400	100-140	60-90			8	••	•••	••	•••	•••	••	•	•	•	•	•	•	•	•
	450	80-130	50-80			10	••	•••	••	•••	•••	••	•	•	•	•	•	•	•	•
	500	70-120	45-70			10-12	••	•••	••	•••	•••	••	•	•	•	•	•	•	•	•
	600	60-100	40-60			10-12	••	•••	••	•••	•••	••	•	•	•	•	•	•	•	•

DDS (CAMC), DDR (CAMK) L 450 mm



USER MANUAL SEGMENTED DIAMOND DRILLS TYPE DDS (CAMC), DDR (CAMK) L 450 MM

ИНСТРУКЦИЯ ПО ЭКСПЛУАТАЦИИ СВЁРЛ АЛМАЗНЫХ СЕГМЕНТНЫХ ТИПА DDS (CAMC), DDR (CAMK) L 450 MM

ІНСТРУКЦІЯ З ЕКСПЛУАТАЦІЇ СВЕРДЛ АЛМАЗНИХ СЕГМЕНТНИХ ТИПУ DDS (CAMC), DDR (CAMK) L 450 MM

Manufacturer: Di-Star Ltd. Ukraine, 45* M. Biryuzova street, Poltava.
Phone: +38 (0532) 508 720, 508 721

Производитель: ООО "Ди-Стар" Украина, г. Полтава, ул. М. Бирюзова, 45*.
Тел.: +38 (0532) 508 720, 508 721

Виробник: ТОВ "Ді-Стар" Україна, м. Полтава, вул. М. Бірюзова, 45*.
Тел.: +38 (0532) 508 720, 508 721

Date of manufacture:
Дата производства:
Дата виготовлення:



EN

USER MANUAL SEGMENTED DIAMOND DRILLS TYPE DDS (CAMC), DDR (CAMK) L 450 MM WITH COOLING

Ø 25-600 MM

Dear Customer!

Thank you for choosing the products manufactured by „Distar“! The use of high-quality raw materials, the right choice of components, and the use of modern technologies as well as the implementation of precise control make our products use-worthy for a long time.
To ensure all of the following, please adhere to the recommendations that you will find in this brochure. This is the only way you can preserve the quality of your „Distar“ diamond drill.

Purpose:
Segmented diamond drill bits are designed for wet core drilling of artificial building materials using a diamond drilling system (portable drilling machine on a frame).
Segmented diamond drills of DDS, DDR L 450 mm type are manufactured with 1 1/4 UNC and 1/2 GAS fittings.

Warning:
Before starting the work, please read the following instructions carefully.
Strictly observe the safety precautions when using the diamond disk and the corresponding equipment.

Before starting any work with electrically driven tools (movement, replacement of tools etc.) pull the plug out of the wall socket or, respectively, remove the battery from the device.
Before each use, perform a visual check for possible damage of the diamond tool.
Never use damaged diamond tools.

Damaged, improperly installed, or improperly operated diamond tools can pose an extremely high risk when used!

Wear safety goggles with side protection (a safety mask with full protection), a respirator, gloves, and earmuffs when using the tools. Always wear safety shoes.

The processed material must be securely attached.

Working without protective equipment is prohibited (refer to the manufacturer's operation manual for the equipment)!

Do NOT use the lateral surface of the diamond layer when working (only use it for grinding operations).

Attention! During through-hole drilling, remember to restrict access for people and equipment to the zone where the core may fall!

Recommended use:

Make sure that the purchased diamond tool can be used to treat the selected material. Note the material instructions that are contained on the label, the packaging, and in this manual. (See Table No. 1 "Applicability of Diamond Tools according to Material Type").

The outer diameter and tool mounting hole of the diamond tool must match the characteristics of your equipment.

If the drill fitting is different from that of your equipment's shaft, use an adapter (available separately).

To increase the drilling depth, we recommend using an extension rod (available separately). Its fitting should correspond to that of the diamond drill and the drilling machine's shaft.

Important! Maximum drilling depth is specified in the operation manual for your equipment. The maximum allowable length of the extension rod equals the difference between the diamond drill length and the maximum drilling depth recommended by the equipment manufacturer. Failure to satisfy this requirement may adversely affect the performance of the diamond drill.

Proper installation:

Securely fix the drill stand on the work piece with an anchor, stud, brace or vacuum suction cup, (not supplied). Failure to satisfy this requirement may adversely affect the performance of the diamond drill and is extremely dangerous!

Before attaching the diamond drill (extension rod), check its fitting as well as that of your equipment for chipping, dimples or other damage; if necessary, clean it from contaminants and dust.

Screw on the diamond drill (extension rod) until its butt end is securely held against the end-face of your equipment shaft's fitting and tighten it with a wrench. Failure to do so may cause excessive radial motion variation!

Check your equipment's spindle assembly for end play. Presence of the latter is dangerous—it may result in drill bit radial motion variation, possibly leading to its failure and destruction!

Perform a test run without load for, at least, 30 seconds. Make sure that there is no vibration, axial and radial run out, or extraneous noise during the run at no load. In case is detected of the above-mentioned deviation, it is necessary to troubleshoot your equipment or the diamond tool.

Attention! Some manufacturers equip drilling machines shafts with special devices (chucks) for quick attachment of diamond drills (with a flexible fitting). In such situations the rigid attachment of the drill to the drilling machine's shaft is impossible and these devices serve as a drill self-centering tool during drilling. In drilling machines with such devices, it may be difficult to evaluate the presence of spindle assembly end-play. Furthermore, during the no-load test run, the radial motion variation of the diamond drill may occur.

If your equipment has no drill bit cooling functionality, you must use a special adapter to feed water inside the drill bit (available separately).

Application:

Carefully read the manufacturer's operation manual for the electrical equipment you are using, paying particular attention to the requirements to the maximum permitted drill bit diameter, power supply, and the recommended drilling speed depending on the material!

Important! To estimate the power rating of your drilling machine (kW), use the watts-out figure, not watts-in!

Attention! Important! Using a drill bit with a maximum permitted diameter (as indicated in the operation manuals for your equipment) may cause its abnormal operation! For best results, use the drill of the diameter 50 mm smaller than the maximum permitted. Such diameter is considered optimum applicable and lets you have a power margin in case it is needed. In this case, use drill bits with soft segments (see Table 1)!

Before drilling, check that the equipment manufacturer's recommendations match those of the diamond drill bit producer!

Before drilling, it is recommended to attach a conductor template (available separately), to the material with screw clamps, suction cups or any another way that securely holds it against the latter. Drilling without

conductor template may lead to the destruction of the diamond drill bit and is extremely dangerous!

Before drilling, switch your equipment into the drill mode (switch off hammer action). If your equipment is incapable of that, use minimum torque and minimum feed without applying pressure. When 10 mm deep in the material, stop the drilling machine, set the required torque (see Table 2) and continue drilling as usual.

The coolant flow rate should be no less than indicated in Table 2.

Important! The cooling liquid must be fed inside the drill.

When drilling a hollow material or drilling horizontally, it is recommended to increase the cooling liquid flow rate by 20–30% from that indicated in Table 2.

The insufficient flow rate or lack of coolant will inevitably lead to diamond drill bit failure, its jamming, and destruction, and are extremely dangerous!

The recommended spindle assembly shaft torque and the required drilling machine power rating are provided in Table 2. Failure to comply with these recommendations may impair operation of the diamond drill bit!

Pay particular attention to the fact that the drilling diameter depends on drilling machine power rating and shaft torque! The smaller the drill diameter, the lower the power rating and the higher the shaft torque must be, and, conversely, the larger the drill diameter, the higher the power rating and the lower the shaft torque are required.

Do not increase the drilling depth rapidly or apply hammer action during drilling. The regular drill bit feed must be smooth, without thrusts.

While drilling, be sure to avoid drill bit bending or jamming. Pay special attention to securely fastening the machine frame! In addition, try to prevent core breakage or degradation and catching the longitudinal or loose rebar! Failure to do so will inevitably lead to the destruction of the drill bit and is extremely dangerous!

If the drill bit catches rebar (metal) switch your equipment into metal drilling mode. If your equipment is incapable of that use minimal feed without applying pressure. After going through armature (metal) continue drilling as usual.

If your equipment has no metal drilling and torque switching functionality, use drill bits with soft segments!

If the diamond drill is jammed, you can release it by way of the following procedure:

Releasing the drill with a wrench

1. Stop the drilling machine and unplug it.

